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Using Word Processing Software to Reduce Common English Errors

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Abstract

Students typically make numerous kinds of errors when writing in an L2. In a survey of Japanese professors, Izzo (1999) identified and classified the most frequent error types that they encountered in their students' writing. Using a second year academic English writing class as subjects, this paper takes four of these errors (article errors, subject-verb agreement errors, fragment errors and spelling mistakes) and tries to answer the following questions: Firstly, does experience with a word processor and its instant error feedback lead to a progressive reduction in the number of the four frequent kinds of error reported by Izzo? Secondly, can students maintain a reduction in errors when the word processor is not available to them? The results indicate that the grammar checker and spell checker, when combined with targeted instruction from the teacher, do indeed reduce student errors. However, the effect does not appear to last beyond the time spent using the word processor.

Introduction

When talking about error correction in students' writing, two areas need addressing. Firstly, there are macro level errors such as organization, cohesion and flow of ideas. Secondly, there are micro or sentence-level errors involving facets of the writing process such as grammar and mechanics. A number of studies agree that these errors should be given equal weighting during the writing and editing processes (see for example Ferris, 2006; Frodeson & Holten 2006; Shih, 1998). Thus, although communicating an overall message is important, problems with mechanics are of equal importance. This is because errors can distract the reader from the message

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that the writer is trying to convey, or worse mean that the reader cannot understand the message at all (MacArthur, 1999). Shih (1998) also suggests that leaving grammar editing until the text is complete can leave texts full of errors that students are unable to deal with.

As with all L2 writers, Japanese students frequently make sentence-level errors in their writing. However, due perhaps to the nature of the Japanese language and the kind of language transfer errors it promotes, the same kinds of errors frequently occur in their writing. For example, Japanese does not have articles or verb conjugation; it is phonetic and makes frequent use of ellipsis. According to Izzo (1999), four of the most frequent errors reported by 34 Japanese university professors of English were use of articles, subject-verb agreement errors, spelling mistakes and fragments. Although Japanese students study English and English grammar for 6 years before coming to university, this article suggests that there is a disconnect between students' knowledge of the L2 and their ability to produce it correctly.

One potential way to address this gap between knowledge and production is through the inclusion in class of a word processor. This can be beneficial in an L2 setting for several reasons. Firstly, as demonstrated by Lam & Pennington (1995), it emphasizes the process of writing, and allows for relatively painless multiple revisions and edits. It can also allow students the opportunity to experiment more with the L2 and can be highly motivating (Hyland, 1990). Furthermore, word processing can lead to a more positive attitude towards writing English, which in turn leads to better writing. It is also extremely useful in the highlighting of student errors (Pennington, 1993a; Pennington, 2006).

Students both want and need error correction. Ferris (2004) argues that indirect error correction is of most benefit. However, it is difficult for the teacher to give this to all students as it is quite time-consuming. The grammar and spell check facilities available in Microsoft® Word 2007® (MSWord) can be useful in this regard and in the identification of the common errors reported by Izzo. MSWord highlights grammar and spelling mistakes as students make them, and provides explanations of the errors, allowing the students to better edit their own work. It can also indicate words that might be mistakes depending on the context, for example knight/night or stake/steak, which was a common failing of spell checkers in the past (MacArthur, 1999). In addition, Chandler (2003) found that although students liked direct correction of errors (which the teacher did), they felt they learned more if their errors were underlined and described (which is what MSWord does), allowing them to correct them themselves. She argued that when students see errors corrected soon after writing, they are better able to remember the correct form. Furthermore, pointing out discrepancies between the students' interlanguage and the L2 may result in acquisition of the target language. In addition, Ferris (2006) argues that teachers should

give students a variety of feedback on their errors, addressing both macro and micro errors. She notes that students respond positively to error correction from the teacher.

Previous studies have found that word processors in class can have a beneficial effect on students' work. In a meta-analysis of studies involving word processing, Goldberg, Russell and Cook (2003) showed that the use of the word processor had an overall moderately positive effect on the quantity and quality of the students' written output. This article found that the students produced higher quality work overall when using word processing software. The researchers defined quality using a number of dimensions, including grammar and mechanics. Furthermore, in a similar meta-analysis, Bangert-Drowns (1993) also found a moderate positive effect. However, he demonstrated that it lasted beyond the classroom and continued to be found in the students' later written work.

This paper will try to answer the following two questions:

1. Does experience with a word processor and its instant error feedback lead to a progressive reduction in the number of the four common kinds of error reported by Izzo?
2. Can students maintain a reduction in errors when the word processor is not available to them?

Method

The participants consisted of 10 Economics majors at a private Japanese University who were taking the second year English academic writing class. This class met once a week for 1.5 hours for 1 semester (approximately 14 weeks). The class size was actually 34, but due to a strict late submissions policy, if a student did not submit an assignment, I deleted their data from the study, resulting in 10 participants.

At the beginning of the semester, I distributed a short questionnaire designed to discover the students' prior experience with using computers. There were 29 respondents in total. All of them indicated that they had a PC at home, which they used at least once a week. On a Likert scale of 1 to 5 (1=not confident at all, 5=very confident), the majority of students selected 3. In addition, 27 indicated that they had used a word processor before.

Each week, in addition to receiving instruction on English academic writing and/or remedial assistance on any errors that I noticed cropping up in their work, the students would start writing a paragraph in class using MSWord. They would complete this for homework and submit it to me via email. However, for the last 4 weeks of the course we did exam practice, which meant that the students had to complete the work during the allotted class time. Altogether, they submitted 13

pieces of work each and 1 final exam totaling 140 pieces of work. I would go through the paragraphs, making a note of their length and tabulating occurrences of the four frequent errors noted by Izzo. I selected these errors from his list for two reasons. Firstly, based on my own classroom experience, they were the ones that would likely be most common to my students. Secondly, my experience with MSWord led me to believe that it would be able to address these errors.

Once I had tabulated the errors, I printed out each piece of work, graded it, and added written feedback regarding macro and micro errors. Thus, in addition to the instant feedback from the computer, students also received written feedback from the teacher. I opted for a more mechanical means of feedback delivery as I felt that the students would prefer to have something they could easily keep and look at for future reference. Electronic comments are harder to find and look at whilst composing another paragraph.

For the final exam, the students wrote using Microsoft® Notepad®. This program comes with Microsoft® Windows® and is a basic word processor and text editor. However, it does not contain any spelling or grammar checking utilities, so the students had to rely on the knowledge they had gained from using MSWord during the semester.

The data were analyzed using descriptive statistics in MSExcel.

Results and Discussion

Table 1: Article errors per 100 words

		Assignment													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Exam
Student	1	2	1	2	2	1	5	3	1	3	5	3	1	1	4
	2	2	0	0	0	1	4	6	2	0	2	4	1	0	1
	3	5	3	0	0	3	4	3	8	0	2	2	1	1	1
	4	4	4	3	2	3	2	1	4	1	3	3	3	4	2
	5	0	0	0	0	0	2	2	1	1	1	1	1	2	1
	6	1	0	0	1	2	2	3	2	0	1	1	0	1	1
	7	0	1	0	4	2	0	1	1	1	1	2	1	3	2
	8	1	0	5	2	5	0	1	0	0	1	0	0	1	0
	9	2	2	3	1	1	0	2	6	4	1	1	1	1	3
	10	1	5	1	1	1	2	0	1	1	1	3	1	4	1

Article errors were the most prevalent in the students' writing, remaining consistently high throughout the course. There were only 27 instances of a student making no article errors in their writing over the entire semester. All students had a problem with articles, i.e. there were not 1 or 2 students who were skewing the totals. For this type of error, the grammar checker appeared to have no effect on the students' ability to correctly use articles. Article errors appear to be the biggest sentence-level obstacle for the students, due no doubt in part to their absence in Japanese. I did not address this type of error directly in class, as students were able to self-correct when told they had article errors, which suggested a lack of care rather than a lack of knowledge.

Table 2: Subject-verb agreement errors per 100 words

		Assignment													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Exam
Student	1	1	0	2	0	0	1	0	1	2	1	1	0	1	0
	2	1	0	0	2	0	0	0	0	1	1	0	0	0	0
	3	0	4	5	1	1	0	0	0	2	0	0	0	0	2
	4	0	3	0	0	0	0	0	0	0	0	0	0	0	3
	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	1	1	0	0	0	0	1	0	0	1	0	0	0	1
	8	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	9	0	0	0	0	0	0	1	0	0	1	0	1	0	1
	10	0	0	1	0	0	0	0	0	0	1	0	0	0	2

The number of subject-verb agreement errors was initially quite low with 6 of the students making no errors and 4 students making only 1. These numbers peaked around assignments 2 and 3 and then tailed off during the course of the semester. For example, after assignment 3, 3 students made no more errors of this kind (students 4, 5 and 6), and students 7, 8, 9 and 10 made between 1 and 3 errors total. This is probably due to more feedback from the teacher and more experience with the grammar checker. However, once students no longer had access to the grammar checker, the total number of subject-verb agreement errors rose sharply to a level similar to that found at the beginning of the course. Although the numbers indicate that most of these errors were made by 2 or 3 students.

Table 3: Fragment errors per 100 words

		Assignment													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Exam
Student	1	5	0	2	0	0	0	1	0	0	0	0	0	0	1
	2	1	2	1	0	2	0	0	2	0	0	0	1	0	0
	3	0	0	3	1	1	2	1	2	0	1	0	1	0	2
	4	2	5	5	1	1	0	1	0	1	0	1	1	1	1
	5	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	6	1	1	1	0	0	0	0	0	0	0	1	0	0	0
	7	1	0	0	0	0	0	0	0	0	0	1	1	1	0
	8	1	0	2	0	0	2	4	0	0	0	0	1	0	0
	9	2	1	0	0	1	1	0	0	0	1	1	0	1	0
	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fragment errors were high for the first 3 assignments, with some students making as many as 5 errors per 100 words. However, this issue was addressed in class around the fourth week through a combination of teacher instruction and elicited feedback from MSWord. This probably accounts for the sudden drop around assignment 4. In fact, after that session, the number of fragment errors remained quite low, with each student usually making 0 or 1 errors per 100 words with only a couple of exceptions (students 3 and 8). In addition, during the exam where no grammar checker was available, 8 students made no fragment errors at all while the other two made 1 and 2 each. These numbers suggest that of all the four error types examined here, fragment errors are the most easily identifiable and correctable by students.

Table 4: Spelling errors per 100 words

		Assignment													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Exam
Student	1	0	0	0	1	0	0	1	1	0	0	0	1	0	2
	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	3	2	0	0	0	1	0	0	0	0	0	0	0	0	1
	4	1	0	0	0	0	2	0	1	1	0	0	0	0	1
	5	1	0	0	0	0	0	0	0	0	0	0	0	1	1
	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	0	0	0	1	0	0	0	0	1	0	0	0	1	1
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10	1	0	0	0	0	0	0	0	0	0	0	0	0	1

For the first assignment, 6 students made 1 or more spelling errors per 100 words. However, this number dropped rapidly from the second assignment on. After the first assignment, there were only 3 assignments (8, 9 and 13) where more than one student made an error. In addition, there were only two instances where a single student made more than 1 spelling mistake per 100 words. This is probably due to them gaining understanding of and confidence in the spell checker. The number of mistakes remained quite low all semester until the final exam. Without the aid of the spell checker, the number of spelling mistakes per 100 words was at its highest level for the whole semester. Two students made 2 errors, six made 1, and two made no errors. However, no distinction was made between spelling errors and typographical errors, which means that some students may simply have hit the wrong keys rather than misspelled a word.

Conclusion

Although the grammar and spellchecking options in MSWord are very useful, they are far from perfect. One of the limitations of using the spell checker is that it does not point out spelling mistakes if the typed word is itself correct. For example, the sentence "That present is form me" is not shown to be a spelling mistake. This situation generally accounted for the majority of the recorded spelling mistakes. Another possible reason for the increased number of spelling errors in the exam is that MSWord's autocorrect feature was not available. This feature automatically corrects

common typographical errors such as 'teh' instead of 'the'. Thus, there is a possibility that a number of the spelling mistakes in the final exam were typographical errors rather than genuine mistakes.

In addition, the grammar checker did not help students very well with correct article usage. For example, if you type the following sentence, "Give me pen." it does not recognize any faults. It does recognize a problem with number agreement in the following situation, "He gave me a pens." However, this is less useful as students tended to make article errors of the former kind rather than the latter.

The grammar checker was not able to find all instances of subject-verb agreement errors in the students' writing. In simpler sentences such as "I gives him a dog", it performs fine. However, in the following sentence taken from a student's work, it does not identify the agreement error: 'The man who hate children, he is can't become a good teacher'. I observed similar problems with fragment recognition. If a sentence started with "because" and only contained half an idea (e.g. Because I like it.) then it correctly identified the problem, However, it was not always able to identify incomplete thoughts that started with conjunctions (e.g. I like fish. So I eat it every day.), presumably because these could be considered correct although informal.

Finally, even if the software could not find any of these errors it did not necessarily mean that the student had produced a good piece of writing. Occasionally they produced work that was very difficult to understand due to problems with syntax and word choice that had nothing to do with these errors. However, when you take into account the increased number of errors in the final exam, it is clear that the spelling and grammar checkers were very useful for the students for the duration of the course.

Word processing is undoubtedly a useful tool for helping EFL students with their writing. It offers them the opportunity to revise their work as often as they want and to try different expressions without the fear of having to erase everything and start again from the beginning. This perhaps in part explains the gradual increase in average paragraph length over the course. In addition, the grammar and spell checker provide invaluable instant feedback regarding certain common errors. However, it appears that any improvement was limited to the time spent using MSWord. As soon as the grammar and spell checker became unavailable for the final exam, the error rate was extremely high, suggesting that the students had not retained much knowledge from using them.

As Macarthur (2008) notes, it is important to reinforce use of the word processor with effective classroom instruction. Thus, it would be of greatest benefit to the students to combine use of the word processor in class with a number of exercises designed to improve their use of grammar, particularly the use of articles.

Limitations

A small number of problems limited the effectiveness of this study. Firstly, due to the strict submissions policy that I instituted, the amount of data was severely restricted. Secondly, I did not carry out a pre-test. This would have allowed for a more meaningful comparison and would have allowed better data comparison. Finally, all the students were Japanese economics majors, so it would be difficult to generalize the findings of this study to other groups.

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